**The Respiratory System: Parts & Purpose**

(Outcome 22)

Name: Date:

**What is the Respiratory System?**

* **–** the release of energy by combining oxygen with digested food (glucose)

Glucose (fuel) + oxygen 🡪 energy + water (waste) + carbon dioxide (waste)

* **Purpose** 🡪 allows gas exchange of and between the blood, air and tissue
* 🡪 consists of the nose, mouth, pharynx, larynx, trachea, bronchi and lungs

Diagram

Description automatically generated

**Question:** Where is this equation from? What is this process called?

**Parts of the Respiratory System**

* **Nose & Mouth** – air comes in through nose & mouth
* **Cilia and Mucus**
  + *air entering the respiratory system must be , , and*
  + *large dust particles get trapped by the hairs lining the entrance to the nasal cavity*
  + Diagram

    Description automatically generated*cilia sweep the trapped particles and mucus away from the towards the*
* **Pharynx** – acts as a passage for both food and air
  + *covers the entrance to the trachea when you swallow* 🡪 *flap of tissue*
  + *air moves from pharynx into the trachea*
* **Larynx** – at the top of the trachea, contains two highly elastic folds of tissue called the

*🡪 muscles pull the together*

*🡪 air moving between them causes the to vibrate*

*🡪 produces sound allowing you to speak*

* **Trachea –** from larynx air passes through trachea before dividing into the
* **Bronchus (bronchi)** – from the trachea, each leading to a lung

IN THE LUNG

* **Bronchioles** – subdivided that continue to divide until reaching
* **Alveoli** – air sacs that allow between inhaled air and the blood
  + Diagram

    Description automatically generated*surrounded by a network of capillaries*
  + *grouped little clusters like grapes*

Diagram

Description automatically generated

**![Diagram

Description automatically generated]()Life is a Highway . . . So is your Respiratory System**

* main highway = trachea
* two-lane road = bronchus
* street = bronchioles
* driveway = alveoli

**Inhale & Exhale**

* When you

🡪 you breathe in

🡪 blood picks up oxygen from the

* When you

🡪 you breathe out , waste, heat

🡪 alveoli pick up carbon dioxide from the

**Extension:** What would happen if you did not have alveoli?

**The Pathway of Air . . .**

1. Air enters the body through the nose or mouth (inhale)
2. Air moves through the pharynx and into the .
3. Trachea divides into two (connect to the lungs)
4. INSIDE the lungs, branch into bronchioles
5. At end of the smallest are alveoli
6. Each is surrounded by capillaries